

ABSTRACT

This invention provides a heat-resistant, high-toughness aluminum alloy which has a good balance between strength and ductility at a temperature from room temperature to around 300 degrees C and has a high fracture toughness, a method of manufacturing the same, and engine parts.

The heat-resistant, high-toughness aluminum alloy of this invention contains 10 to 16 mass.% of silicon, 1 to 3 mass % of iron, 1 to 2 mass % of nickel, 0.5 to 2 mass % in total of one or more selected from the group consisting of titanium, zirconium, chromium and vanadium, 0.6 to 3 mass % of copper, and 0.2 to 2 mass % of magnesium, the balance being essentially aluminum, and is obtained by densifying aluminum alloy powder prepared by gas atomizing. The silicon has an average grain diameter of 4 μm or less.